

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/761,217	CHAUDLHRY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Aimee J. Li	2183	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 01 August 2005.
2. ☒ The allowed claim(s) is/are 1, 3-9, 12, 14-20, and 23 renumbered as 1, 2-8, 12, 10-16, and 17 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.   |

RP

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with A. Richard Park (Reg. No. 41,241) on 12 September 2005.

3. Amendments are indicated with underlines for added text and strikethroughs and/or double brackets for deletions. The application has been amended as follows:

a. In the specification, please amend the paragraph starting on page 7, line 20 to read

The data structures and code described in this detailed description are typically stored on a computer readable storage medium, which may be any device or medium that can store code and/or data for use by a computer system. This includes, but is not limited to, magnetic and optical storage devices such as disk drives, magnetic tape, CDs (compact discs) and DVDS (digital video discs), and computer instruction signals embodied in a carrier wave. For example, the carrier wave may carry information across a communications network, such as the Internet.

b. In claim 1, please amend lines 8-10 to read "using ~~allowing~~ a speculative thread to speculatively execute subsequent code within the program using the predicted result, wherein the subsequent code follows the section of code in an execution stream of the program; and".

c. In claim 12, please amend the claim to read

12. An apparatus that facilitates predicting a result produced by a section of code in order to support speculative program execution, the section of code including a plurality of program instructions, the apparatus comprising:

A processor and a memory;

A head thread that is configured to execute the section of code within a program, wherein executing the section of code produces the result;

A prediction mechanism that is configured to generate a predicted result to be used in place of the result before the head thread produces the result;

A speculative thread that is configured to speculatively execute subsequent code within the program using the predicted result, wherein the subsequent code follows the section of code in an execution stream of the program;

A determination mechanism that is configured to determine if a difference between the predicted result and the result generated by the head thread affected execution of the speculative thread;

A checking mechanism that is configured to check a read bit, wherein the read bit indicates whether a field within a data region

associated with the section of code has been read by the  
speculative thread; and if so using

\_\_\_A time advancing mechanism that is configured to advance the  
current time in the time dimension of the system[[:]], and

\_\_\_A determining mechanism configured to determine if a  
difference between the predicted result and the result generated  
by the head thread affected execution of the speculative thread;

A joining mechanism that is configured to merge state associated  
with the speculative thread with state associated with the head  
thread if the difference did not affect execution of the speculative  
thread; and

Wherein if the difference affected execution of the speculative  
thread, the apparatus is configured to perform a rollback operation  
for the speculative thread to undo actions performed by the  
speculative thread.

d. In claim 23, please amend lines 10-12 to read “using ~~allowing~~ a speculative thread  
to speculatively execute subsequent code within the program using the predicted result,  
wherein the subsequent code follows the section of code in an execution stream of the  
program; and”.


4. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Aimee J. Li whose telephone number is (571) 272-4169. The  
examiner can normally be reached on M-T 7:00am-4:30pm.

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5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL  
Aimee J. Li  
12 October 2005



EDDIE CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100